

REMARKS

The Examiner is thanked for the careful examination of the application, and for the suggestions for amending the application.

Claim 7 has been amended to address the issues raised by the Examiner with regard to 35 USC 112. Specifically, claim 7 has been amended to define the metal ion attachment inhibiting unit as "means for inhibiting". Such amendment should overcome the issue of any alleged missing elements. With regard to the issue of the "specific" molecules, the claim has been amended as suggested by the examiner to define a "group". Based on the specification, one of ordinary skill in the art will understand clearly what is meant by the group or specific molecules. Specifically, they are the molecules that are impacted by the means for inhibiting. In one embodiment, such molecules are H₂O molecules, but the invention is not limited to the group being merely H₂O molecules. There may be more than one group of molecules. Accordingly, Applicants submit that the claim now complies with 35 U.S.C. §112.

Claim 7 has been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,590,205, hereinafter Shiokawa. In making the rejection, the Examiner acknowledges that Shiokawa does not explicitly teach a metal ion attachment inhibiting unit for inhibiting attachment of said metal ions to specific molecules in the attachment region. Instead, the Examiner alleges that the hole 51a and the hole 51b will act as a metal ion attachment inhibiting unit "because they will retard the flow of the metal ions" and therefore prevent at least some of the ions from attaching to the molecules in the region.

However, the issue is not whether the holes 51 a, b will prevent the attachment of ions, the issue is whether the holes will selectively inhibit the attachment of ions to one or more groups of molecules *in the claimed attachment region*. The Examiner's attention is directed to the fact that claim 7 now defines the "means for inhibiting" as inhibiting attachment of said metal ions to one or more groups of molecules in said attachment region. The claim states that the positively charged metal ions attach to the analyte molecules in an attachment region.

According to the embodiment identified by the Examiner, i.e., Figure 7 of Shiokawa, the attachment region is clearly the second ionization chamber 51. However, there is no structure in the Figure 7 embodiment of Shiokawa that prevents ions that are present in the attachment region, i.e., the second ionization chamber 51, from attaching to a group of molecules. Applicants submit that the holes 51a,b would not retard the flow of ions because of the conservation law of mass. At most, the holes would require the flow to increase in speed as the matter flows through the holes. Even if the hole 51a prevented some ions from entering the attachment region, it would not in any way prevent the attachment of ions that are present in the attachment region from attaching to a group of molecules. At best, it may reduce the number of ions entering the region. However, the holes would not have any effect on the ions that actually enter the region. Accordingly, claim 7 is clearly patentable over Shiokawa.

To further define the protection to which applicants are entitled, new claims 13-17 have also been added. New claim 13 defines a heater for inhibiting attachment of said metal ions to a group of molecules in said attachment region.

Such structure is not taught or suggested by Shiokawa. Accordingly, new claims 13-17 are also patentable over Shiokawa.

In view of the foregoing amendments and remarks, the Examiner is respectfully urged to reconsider and withdraw the outstanding rejections. In the event that there are any questions concerning this Amendment, or the application in general, the Examiner is respectfully urged to telephone the undersigned attorney so that prosecution of the application may be expedited.

Respectfully submitted,

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